REMARKS

The Office Action dated December 26, 2007, has been received and carefully considered. In this response, claims 1-3, 5, 7, 9, 12-16, 18 and 21 have been amended, and claims 22-24 have been added. Entry of the amendments to claims 1-3, 5, 7, 9, 12-16, 18 and 21, and the addition of claims 22-24 is respectfully requested. Reconsideration of the current rejections in the present application is respectfully requested based on the following remarks.

I.   THE NON-STATUTORY SUBJECT MATTER REJECTION OF CLAIM 11

On page 2 of the Office Action, claim 11 was rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. This rejection is hereby respectfully traversed.

The Examiner asserts that claim 11 is non-statutory because, on page 19, lines 7-9, of the specification, Applicant describes that the medium that carries the instructions can be a form of signal. Moreover, the Examiner requires that the recitation "or transmitted to one or more processors via one or more signals" be deleted from the specification. Applicant respectfully disagrees. Applicant respectfully submits that the specification recites "one or more processors operating in accordance with stored instructions may implement the functions

associated with source address tracing in accordance with the present invention as described above. If such is the case, it is within the scope of the present invention that such instructions may be stored on one or more processor readable carriers (e.g., a magnetic disk), or transmitted to one or more processors via one or more signals." See, page 19, lines 2-9. Therefore, Applicant respectfully submits that the instructions are stored (e.g., on a magnetic disk) and may be either readable by one or more processors or transmitted to one or more processors via one or more signals. Furthermore, Applicant respectfully submits that claim 11 does not recite "the medium that carries the instructions can be a form of signal," as asserted by the Examiner. For example, claim 11 recites "[a]t least one processor readable medium for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1." This contradicts the Examiner's assertion that the claim 11 does not recite a computer program being stored and executable on any readable medium. Thus, claim 11 clearly recites such a tangible embodiment.

In addition, the Examiner asserts that the specification never clearly discloses what a processor readable medium would

be because the processor readable medium can be either a processor readable carriers (e.g., a magnetic disk) or a signal via which instructions are transmitted to the processors. Applicant respectfully submits that the Examiner misinterpreted the disclosure of the Specification. In particular, Applicant recites that <u>instructions may be stored</u> on one or more processor readable carriers (e.g., a magnetic disk) <u>or instructions may be transmitted</u> to one or more processors via one or more signals <u>and NOT the one or more processor readable carriers is the one or more signals</u>. Therefore, nowhere does Applicant disclose that the one or more processor readable carriers may be one or more signals.

In view of the foregoing, it is respectfully requested that the aforementioned non-statutory subject matter rejection of claim 11 be withdrawn.

II. <u>THE ANTICIPATION REJECTION OF CLAIMS 1-5, 9, 12-16, 20 & 21</u>

On pages 3-4 of the Office Action, claims 1-5, 9, 12-16, 20, and 21 were rejected under 35 U.S.C. § 102(a) as being anticipated by Peng et al. ("Detecting Distributed Denial of Service Attacks Using Source IP Address Monitoring"). This rejection is hereby respectfully traversed.

Under 35 U.S.C. § 102, the Patent Office bears the burden of presenting at least a prima facie case of anticipation. _In re Sun_, 31 USPQ2d 1451, 1453 (Fed. Cir. 1993) (unpublished). Anticipation requires that a prior art reference disclose, either expressly or under the principles of inherency, each and every element of the claimed invention. _Id._. "In addition, the prior art reference must be enabling." _Akzo N.V. v. U.S. International Trade Commission_, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986), _cert. denied_, 482 U.S. 909 (1987). That is, the prior art reference must sufficiently describe the claimed invention so as to have placed the public in possession of it. _In re Donohue_, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985). Such possession is effected only if one of ordinary skill in the art could have combined the disclosure in the prior art reference with his/her own knowledge to make the claimed invention. _Id._.

Regarding claims 1, 12, and 21, the Examiner asserts that Peng et al. discloses the claimed invention. Applicant respectfully disagrees. However, in order to forward the present application toward allowance, Applicant has amended claims 1, 12, and 21 to more specifically define the claimed invention, and specifically those features that differentiate the claimed invention from Peng et al., as well as the other

13

cited references. In particular, Applicant respectfully submits that Peng et al. fails to disclose, or even suggest, a method for tracing source addresses of packets, the method comprising: "querying a storage module of the network element to identify at least one source address of a previously received packet recorded within a predetermined time period prior to receiving the current packet," as presently claimed. In contrast, Peng et al. merely discloses comparing current counts of a hash table with an Address Database (IAD) to calculate how many new IP addresses have appeared in a time slot. Additionally, if the number of packets per IP address is larger than a certain threshold, an alarm is set to indicate a bandwidth attack. *See*, page 4, Section A. Accordingly, is it respectfully submitted that claims 1, 12 and 21 are allowable over Peng et al.

Also, Applicant respectfully submits that Peng et al. and the other cited references, taken either alone or in combination, fail to disclose, or even suggest, routing the current packet to a network element if at least part of a source address of the current packet matches at least part of the at least one source address of the previously received packet, as presently claimed. In contrast, Peng et al. discloses adding legitimate IP addresses to an IP Address Database (IAD), recording IP addresses that appear in a current time interval in

14

a hash table along with a number of IP packets and a time stamp of the most recent IP packet for each IP address, and comparing the IAD to the hash table to determine the number of new IP addresses that have appeared in the current time interval. The Examiner asserts that the claim merely recites routing a packet, but has no limitation on where to route the packet, and therefore the Examiner interprets that the packet is routed when the packet is recorded in the hash table. Applicant respectfully disagrees. Applicant respectfully submits that Peng et al. merely discloses recording the packet in the hash table and not "routing the current packet to a network element," as presently claimed. Moreover, the source IP address monitoring (SIM) scheme of Peng et al. merely passively monitors the packets and fails to actively rout the packets. In addition, Applicant discloses in the Specification that "the network element may be a computer, a server, or a content-aware switch/router having one or more connections to a computer and/or communications network." See, e.g., page 8, lines 5-9. Therefore, the network element routs the packet to another network element (e.g., a computer and/or communications network). Thus, Applicant respectfully submits that Peng et al. fail to disclose, or even suggest, "routing the current packet to a network element if the at least part of a source address of

15

the current packet matches at least part of the at least one source address of the previously received packet," as presently claimed.

In view of the foregoing, is it respectfully submitted that claims 1, 12, and 21 are allowable over Peng et al.

At this point, Applicant would like to remind the Examiner that, as stated in MPEP § 2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." <u>Verdegaal Bros. v. Union Oil Co. of California</u>, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Regarding claims 2-5, 9, 13-16, and 20, these claims are dependent upon independent claims 1 and 12. Thus, since independent claims 1 and 12 should be allowable as discussed above, claims 2-5, 9, 13-16, and 20 should also be allowable at least by virtue of their dependency on independent claims 1 and 12. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

Additionally, Applicant respectfully submits that the newly added claims 22-24 recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination. For example, claim 24 recites

"comparing the at least part of the source address of the packet with at least one of the plurality classes of subnet of the at least one source address recorded within the predetermined time period prior to receiving the packet," as presently claimed.

In view of the foregoing, it is respectfully requested that the aforementioned anticipation rejection of claims 1-5, 9, 12-16, 20, and 21 be withdrawn.

III. THE OBVIOUSNESS REJECTION OF CLAIMS 6 AND 17

On page 5 of the Office Action, claims 6 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Peng et al. ("Detecting Distributed Denial of Service Attacks Using Source IP Address Monitoring"). This rejection is hereby respectfully traversed.

As stated in MPEP § 2143.03, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending

therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Regarding claims 6 and 17, these claims are dependent upon independent claims 1 and 12. Thus, since independent claims 1 and 12 should be allowable as discussed above, claims 6 and 17 should also be allowable at least by virtue of their dependency on independent claims 1 and 12. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 6 and 17 be withdrawn.

IV. THE OBVIOUSNESS REJECTION OF CLAIMS 7, 8, 18, AND 19

On page 5 of the Office Action, claims 7, 8, 18, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Peng et al. ("Detecting Distributed Denial of Service Attacks Using Source IP Address Monitoring") in view of Lingafelt et al. (U.S. Patent Application Publication No. US2002/0147925A1). This rejection is hereby respectfully traversed.

It is respectfully submitted that the aforementioned obviousness rejection of claims 7, 8, 18, and 19 has become moot

18

in view of the deficiencies of the primary reference (i.e., Peng et al.) as discussed above with respect to independent claims 1 and 12. That is, claims 7, 8, 18, and 19 are dependent upon independent claims 1 and 12 and thus inherently incorporate all of the limitations of independent claims 1 and 12. Also, the secondary reference (i.e., Lingafelt et al.) fails to disclose, or even suggest, the deficiencies of the primary reference as discussed above with respect to independent claims 1 and 12. Indeed, the Examiner does not even assert such. Thus, the combination of the secondary reference with the primary reference also fails to disclose, or even suggest, the deficiencies of the primary reference as discussed above with respect to independent claims 1 and 12. Accordingly, claims 7, 8, 18, and 19 should be allowable over the combination of the secondary reference with the primary reference at least by virtue of their dependency on independent claims 1 and 12. Moreover, claims 7, 8, 18, and 19 recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 7, 8, 18, and 19 be withdrawn.

19

V.   THE OBVIOUSNESS REJECTION OF CLAIM 11

On page 6 of the Office Action, claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Peng et al. ("Detecting Distributed Denial of Service Attacks Using Source IP Address Monitoring") in view of Langberg et al. (U.S. Patent No. 5,852,630).   This rejection is hereby respectfully traversed.

It is respectfully submitted that the aforementioned obviousness rejection of claim 11 has become moot in view of the deficiencies of the primary reference (i.e., Peng et al.) as discussed above with respect to independent claim 1.   That is, claim 11 is dependent upon independent claim 1 and thus inherently incorporates all of the limitations of independent claim 1.   Also, the secondary reference (i.e., Langberg et al.) fails to disclose, or even suggest, the deficiencies of the primary reference as discussed above with respect to independent claim 1.   Indeed, the Examiner does not even assert such.   Thus, the combination of the secondary reference with the primary reference also fails to disclose, or even suggest, the deficiencies of the primary reference as discussed above with respect to independent claim 1.   Accordingly, claim 11 should be allowable over the combination of the secondary reference with the primary reference at least by virtue of its dependency on

20

independent claim 1. Moreover, claim 11 recites additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claim 11 be withdrawn.


VI. CONCLUSION

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0206, and please credit any excess fees to the same deposit account.

Respectfully submitted,

Hunton & Williams LLP
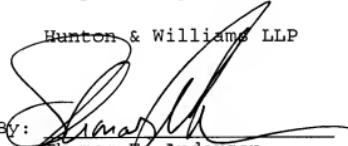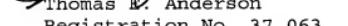
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